DOCUMENT RESUME

ED 181 732 FL 010 900

AUTHOR Miller, Anne
TITLE Hearsay, a Listening Workbook: Series A Video Lectures. English for Special Purposes Series: Autobody Repair.
INSTITUTION Honolulu City and County Office of Human Resources, Hawaii.; Honolulu Community Coll., Hawaii.
SPONS AGENCY Department of Labor, Washington, D.C.
PUB DATE 77
CONTRACT DL-15-6053-37
NOTE 103p.; For related documents, see FL 010 897-905

EDRS PRICE MF01/PC05 Plus Postage.
DESCRIPTORS Adult Education; *Auto Mechanics; Cloze Procedure; *English (Second Language); *English for Special Purposes; Instructional Materials; *Language Instruction; *Listening Comprehension; Second Language Learning; *Vocational Education; Workbooks

ABSTRACT

This is the first of two parallel workbooks designed to accompany videotaped lectures on automotive repair for non-English-speaking adult students. Each of the 11 units is devoted to one aspect of auto mechanics (e.g., power tools, welding, painting). After listening to the lectures, the student is expected to complete exercises of the following types: multiple-choice, Cloze, fill-in-the-blanks, pick-a-picture, and label-the-picture. (JB)

**********
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
**********

ENGLISH FOR SPECIAL PURPOSES SERIES

AUTOBODY REPAIR

# HEARSAY

## A LISTENING WORKBOOK

SERIES A VIDEO LECTURES

ED181732

FL010900

U S DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

ANNE MILLER

Edited by
Alfred G. Hoel

Video Lectures by
Herbert Nishii

Illustrations by
Michael Nonaka

2

Produced at Honolulu Community College
1977

No rights reserved. Any part of this book may be reproduced in any form or by any electronic or mechanical means by any classroom teacher for use in a classroom. No written permission from the author or publisher is necessary. This text may not be commercially sold or published. Arrangements for obtaining multiple copies of this text can be made with the Honolulu Community College Instructional Resource Center.

Produced at Honolulu Community College, 1977.

This text was developed under Comprehensive Employment and Training Act (CETA) contract number 15-6053-37 between the U.S. Department of Labor and the Office of Human Resources, City and County of Honolulu, under subcontract to Honolulu Community College.

## ACKNOWLEDGMENTS

The videotapes on autobody repair, upon which the listening texts are based, were a product of the combined efforts of many individuals here at Honolulu Community College.

The initial members of the staff-- Al Hoel, Kathy Hubbard, Bill Peet, Marybeth Clark and I-- created the idea of having video-based listening materials.

Herbert Nishii, an autobody student, and part-time autobody repairman, planned the content of the video lectures and then skillfully delivered the lectures and demonstrated the autobody repair techniques before the camera. He was also my primary source of information about autobody work.

Steven Downey, also a student, set up the video equipment and did the camera work for lectures VI through XII. He then edited all of the lectures into Series A and Series B tapes, a laborious task completed with equal amounts of precision, skill and patience.

Stanley Oganeku, the director of the Autobody Repair Program here, gave us permission to use the autobody shop and equipment for some of our videotaping sessions; he and other instructors also provided us with technical information whenever Herbert Nishii was not available to answer our questions.

Katsumi Ige, the media technician for the Instructional Resource Center, arranged for our use of the IRC videotaping equipment, studio, editing room, and monitors. Bill Wiley, the director of the Instructional Resource Center, also assisted us in the production of our materials.

Sumie Ono, the director of the Learning Assistance Center, made LAC rooms available for our students and teachers to view the tapes and conduct classes.

The students with whom we used the materials gave us much valuable feedback as to the relative difficulty of the different lectures and the exercises written for the lectures.

Ofelia Berzabal, Yong-Ok Park, and Tanh Van Phan, the bilingual teachers, regularly helped the students and me in the video listening classroom, and also provided me with good advice and suggestions as to the editing of the lectures into different series.

Mike Nonaka, artist, drew the excellent pictures of the autobody tools and equipment which are included in the workbook exercises.

Sheila Mun, Fay Ishikawa, Jessiefema Figuerres, and Diane Yoshida, our typists at various times during the year, gave us dedicated service and the benefit of their fast, accurate typing skills for week upon week of non-stop typing.

Al Hoel, the coordinator of our program, encouraged me as the videotaping, materials writing, transcribing, and video editing progressed. His meticulous skills in designing a format for the materials, editing the exercises, and proofing the final typed copies of all the materials have been crucial to the quality of the finished product. His sense of humor, also, helped the entire staff to cope with the project and the simultaneous writing and teaching we handled through much of the year.

A.M.

*Honolulu, Hawaii*
*August 19??*

TABLE OF CONTENTS


Acknowledgments..... iii

To The Student..... vi

UNIT I INTRODUCTION TO AUTOBODY REPAIR..... 1

UNIT II HAND TOOLS..... 7

UNIT III POWER TOOLS..... 24

UNIT IV USE OF HAMMER AND DOLLY..... 38

UNIT V PICKING AND FILING..... 46

UNIT VI USE OF THE DISC GRINDER..... 51

UNIT VII PLASTIC FILLING..... 56

UNIT VIII WELDING..... 63

UNIT IX THE SPRAY GUN..... 73

UNIT X INTRODUCTION TO PAINTING..... 78

UNIT XI PREPARATION FOR PAINTING..... 84

UNIT XII FINAL PREPARATION AND SPOT PAINTING..... 91

## TO THE STUDENT

These texts are designed to be used with video-taped lectures. There are two purposes for these listening materials and lectures. The primary purpose is to help you develop your ability to understand American English as it is spoken by a native speaker. A second purpose is to provide you with information on autobody repair.

Before watching each part of a video lecture for the first time, look in the workbook for the Preview and the Questions To Think About for that part of the lecture and read them. Having this information will help you understand the lecture. The Preview and Questions To Think About are translated in your translation manual. You should also look in the translation manual for the vocabulary used in that part of the lecture, and familiarize yourself with the words and meanings.

As you watch each part of the lecture for the first time, try to get the general ideas as the lecturer explains them. Please do not read your translation vocabulary or any of your other texts as you listen, since if you keep your eyes on a book you will miss the important visual aspects of the lecture and demonstrations.

After watching the video lecture part, go to the Exercises in your workbook and read them over. The translation manual contains the translations of the directions for each of the Exercises. Try to answer the questions you know, but avoid spending too much time on them: the teacher will soon play the same video lecture part over again, and you will have time later to complete the exercises.

The second time you watch the lecture, you can also glance at the Exercise questions and/or the translation vocabulary in order to listen for the answers to specific questions or to listen for particular vocabulary words. In your translation text, the list of vocabulary words are written in the order in which they are said in the lecture parts.

After listening to the video lecture a second time, finish answering the exercise questions.

When you do the Multiple Choice exercises, do not select the word choices simply according to the words you hear on the tape. You will do better if you carefully read and think about all the choices and then select the ones which make sense, based on all the information which Herbert Nishii gave in the lecture.

For the Cloze exercises, however, you will fill the blanks with the exact words you hear Herbert Nishii use in the sentences as you listen closely to the tape several times.

The Fill in the Blanks items are similar to the Cloze exercises. You can listen closely to the tape to write, word-for-word, the phrase or words you hear Herbert Nishii use in the same sentences. The main difference between the Cloze and the Fill in the Blanks exercises is that the Cloze requires you to listen for single words, but the Fill in the Blanks exercises require you to use any number of words necessary to complete the sentence.

If there is a Pick the Pictures exercise, your teacher will read the leads (questions or statements) for which you are to choose the corresponding picture(s).

For Label the Pictures exercises, however, you can simply write the name of the pictured item in the space provided under the picture. The rest of the types of exercises in your workbook are fairly simple and need no clarification.

When all of the students finish doing the exercises, the teacher will go over the exercises with the class, asking you for your answers and letting you know which answers are correct. If necessary, the teacher will explain why an answer is correct or incorrect, and/or play the same lecture part over again, so you can listen for a particular exercise answer. Do not hesitate to ask any questions you might have. If you continue to have trouble understanding any particular section of a lecture, your teacher can give you a transcript of the tape to read while you listen again to the lecture.

To get maximum benefit from your listening classes, you should: 1) make sure you understand the content of the lecture at the time you are listening to it in class; 2) periodically review the names of the tools and the repair procedures covered in earlier lectures; 3) memorize the new vocabulary found in each lecture; 4) frequently review and use all of the vocabulary so that you do not forget it.

You might find, at first, that the lectures and exercises are difficult. Please do not get discouraged! Gradually, with practice, you will begin to understand more of Herbert Nishii's speech. You will also learn how to do the exercises more easily and rapidly. Do not expect to be able to get all of the answers correct at first. The development of listening and reading skills takes time and a lot of practice, and that is a purpose for which these texts were designed.

A.M.

*Honolulu, Hawaii*
*August, 1977*

UNIT I

VIDEO LECTURE (SERIES A)

INTRODUCTION TO AUTOBODY REPAIR

PREVIEW

(Part 1)

Herbert Nishii tells about the kinds of work autobody repairmen do, and what these jobs consist of.

Questions To Think About:

1. What are the kinds of work autobody repairmen do?
2. What is the work of a "metal man"?
3. What is the work of a painter?

(Part 2)

This part of the lecture deals with pay scales and ratings, and with the expectations that your employer will probably have about the work you do in the shop.

Questions To Think About:

1. What is the lowest hourly wage earned by autobody repairmen now?
2. What is the top hourly wage?
3. What kind of work will your employer expect from you?
4. Is autobody repair an easy job?

Preview continued

(Part 3)

This part of the lecture describes safety precautions and the safety equipment you will need as an autobody repairman.

Questions To Think About:

1. What safety equipment do you need to wear at all times?
2. What safety equipment do you need for particular jobs?
3. What is the telephone number for emergency calls?

(Part 4)

In this part of the lecture, Herbert Nishii describes autobody repair working conditions, and what clothing is appropriate for the job.

Questions To Think About:

1. Will you get dirty on autobody repair jobs?
2. What kinds of dirt will get on your hands and your clothes?
3. What kind of shirt and pants should you wear?

EXERCISES

(Part 1)

Multiple Choice (TrA)

1. In metal work you

   a. pull dents.
   b. fix frames.
   c. fix the paint.
   d. align doors.

2. "Frame" in this lecture means the

   a. doors of the car.
   b. undercarriage of the car body.
   c. hood.
   d. paint on the car.

3. "Align doors" in this lecture means to

   a. fix door dents.
   b. pull dents in the metal.
   c. fit doors on.
   d. tape the car up.

4. "Larger collision work" in this lecture means

   a. the cars that get into accidents.
   b. mixing paints.
   c. basic dent pulling.
   d. big cars.

5. In painting you learn to

   a. mix paints.
   b. mix dents.
   c. sand cars.
   d. make accidents.
   e. tape cars up.
   f. make the car look new.

(Part 2)

Short Answer (TrC)

1. How much would autobody men be able to get paid at this time?

2. What does an autobody man's pay depend upon?

3. What pay do you start out at?

4. What pay do you work your way up to?

5. What will your boss want you to do?

6. Why would your boss want you to perform well?

Short Answer (continued)

7. What does Herbert Nishii mean by "you have to be able to sweat a little bit"?

8. What is an English synonym for the word "fuifilling"?

(Part 3)

Fill in the Blanks (Tr D)

1. You need to take safety precautions because autobody is a very _____ job.

2. The _____ is used when you work with plastic filler.

3. The _____ has two filters and it is used when you paint.

4. You use _____ for eye protection when using the the drill, power grinder, or blow gun.

5. You use _____ for eye protection when you are welding.

6. In case of fire, you have to know where the _____ are.

7. You need _____ to protect your feet.

8. For emergencies, you should remember the number _____.

Pick the Pictures (Tr I)

a.

b.

1



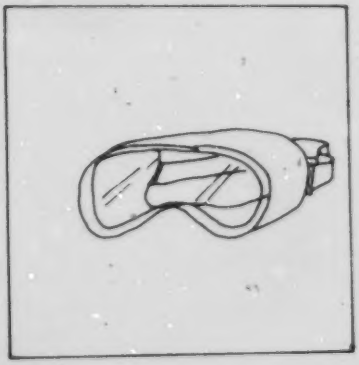
4

Pick the Pictures (continued)

c.

d.

e.



f.

1. _____
2. _____
3. _____

4. _____
5. _____
6. _____

(Part 4)

Multiple Choice (TrA)

1. What kind of job is autobody?

   a. hazardous
   b. fulfilling
   c. clean
   d. dirty

2. What things make the job dirty?

   a. oil
   b. dust
   c. grease
   d. paint

3. In autobody work, you also get

   a. cuts.
   b. bruises.
   c. old.
   d. scars.

4. You know you've worked well when

   a. you're dirty.
   b. you're hazardous.
   c. you have an emergency.
   d. you're beat up.

5. What kind of shirt should you wear in an autobody shop?

   a. a clean shirt
   b. a cool shirt
   c. a new shirt
   d. a comfortable shirt
   e. a light shirt
   f. a T-shirt

6. What kind of pants should you wear at an autobody shop?

   a. comfortable pants
   b. pants you can throw away later on
   c. old pants
   d. clean pants

7. An autobody repairman's pants are going to

   a. get stained.
   b. get beautiful.
   c. get dusty.
   d. have holes in the knees.

UNIT II

VIDEO LECTURE (SERIES A)

HAND TOOLS

PREVIEW

(Part 1)

Herbert Nishii introduces the set of hammers you would find in a toolbox, and also the all-purpose dolly. He describes the finishing hammer and explains what it is used for.

Questions To Think About:

1. What are the names of the hammers.
2. What is the name of the heavy metal object used with the hammers?
3. How would you describe the appearance of the finishing hammer?
4. What is the finishing hammer used for?

(Part 2)

Herbert Nishii holds a picking hammer and describes its appearance and use. He then points out some features of the shrinking hammer, and explains what it is used for.

Questions To Think About:

1. What does the picking hammer look like? What is it used for?
2. What does the shrinking hammer look like? What is it used for?

Preview continued

(Part 3)

Herbert Nishii holds and describes the 2-pound ball-peen hammer and compares it with the other hammers. He also explains the use of the ball-peen hammer, and tells when you would use it in relation to using the other hammers for autobody repair. He then shows an all-purpose dolly and explains its uses.

Questions To Think About:

1. How does the ball-peen hammer compare in size and weight to the other hammers?

2. When would you use the ball-peen hammer in autobody repair?

3. What are two uses of the all-purpose dolly?

(Part 4)

Herbert Nishii shows and describes two types of pliers, drive ratchets, sockets, and extensions of different sizes, and tells what these are used for.

Questions To Think About:

1. What are the uses of the two types of pliers?

2. What are the two sizes of the drive ratchets?

3. What is the purpose of the extensions?

4. What is the purpose of the drive ratchets and sockets?

(Part 5)

Herbert Nishii shows screwdrivers of two types and many different sizes. He describes the uses and the different shapes of the two types of screwdrivers.

Preview continued

Questions To Think About:

1. What are the two types of screwdrivers called?
2. How are the screwdrivers shaped?
3. What are they used for?

(Part 6)

Herbert Nishii shows a roloc disc, explains what equipment you need in order to use it and also tells what it is used for. He then shows a wire-end brush and tells where and why it is used.

Questions To Think About:

1. What equipment do you need in order to use the roloc disc?
2. What is the roloc disc used for?
3. What equipment do you need in order to use the wire-end brush?
4. Where and why is the wire-end brush used?

(Part 7)

Herbert Nishii introduces a set of files used in autobody shops. He describes the appearance and uses of each file as he holds it.

Questions To Think About:

1. What does the speed file look like, and what kind of surface is it used on?
2. What does the Vixen file look like, and what kind of surface is it used on?
3. What does the Bondo file look like, and what kind of surface is it used on?

Preview continued

Questions To Think About: (continued)

4. How do you hold the speed file and the Vixen file?

5. How do you hold the Bondo file?

(Part 8)

Herbert Nishii holds a reverse hammer, names its different parts, and explains what it is used for and how you use it. He then shows and explains the uses of the tin-snips, the blow gun, and the measuring tape.

Questions To Think About:

1. What are the four parts of the reverse hammer?

2. What is the reverse hammer used for, and when would you need to use it?

3. What do the tin-snips resemble? What are they used for?

4. What is the blow gun used for?

5. What is the tape measure used for?

(Part 9)

Herbert Nishii introduces the final tools in a toolbox: putty knives, plastic applicators, and a sanding block. He explains the purposes of the putty knives and plastic applicators, and describes the appearance and use of the sanding block.

Questions To Think About:

1. What are putty knives and plastic applicators used for?

2. What is another name for "plastic applicators"?

3. What would you use a sanding block for?

EXERCISES

(Part 1)

Fill in the Blanks (TrD)

1. In autobody repair and painting you're going to be carrying around a set of _____ which would be called your _____.

2. To start off, Herbert Nishii will be telling about a set of _____ and also an _____.

3. The first hammer is a _____ hammer.

4. The metal part of a hammer is called the "head". The two ends of the head are called the _____ and the _____.

5. The part of a hammer which you hold is called the _____

Short Answer (TrC)

1. Describe what the head of the finishing hammer looks like.

2. What is another word for "slightly rounded"?

3. What is the finishing hammer used for?

4. What is another term for "bumping and dinging"?

(Part 2)

Short Answer (TrC)

1. Describe what the head of the picking hammer looks like.

2. What is the picking hammer used for?

3. After you pick up a small dent with the picking hammer, what do you do next?

4. Describe what the head of the shrinking hammer looks like.

5. Which side of the shrinking hammer head do you use?

Short Answer (continued)

6. What is the shrinking hammer used for?

7. What part of the shrinking hammer pushes the metal down and pulls it in?

(Part 3)

Multiple Choice (TrA)

1. The 2-pound ball-peen hammer is

   a. a dolly.
   b. a heavy hammer.
   c. the biggest hammer.
   d. easily recognizable.

2. The 2-pound ball-peen hammer is used for

   a. shrinking metal.
   b. roughing out large dents.
   c. picking up dents.
   d. bumping and dinging.

3. The 2-pound ball-peen hammer is used

   a. after you bump and ding.
   b. before you bump and ding.
   c. after you use the other hammers.
   d. before you use the other hammers.

4. Another name for all-purpose dolly is

   a. pulling dolly.
   b. shrinking dolly.
   c. high crown dolly.
   d. picking dolly.

5. The all-purpose dolly is used with the hammers for

   a. smoothening out metal.
   b. shrinking the metal.
   c. picking up small dents.
   d. damaging metal.

6. The all-purpose dolly is also used for

   a. filing metal.
   b. roughing out metal.
   c. pulling in metal.
   d. making ridges in metal.

7. "Roughing out" means

   a. hitting out major dents.
   b. finishing.
   c. bumping and dinging.
   d. rounding out.

Pick the Pictures (Trl)

a.

b.

c.

d.

Pick the Pictures (continued)

e.

1. _____
2. _____
3. _____
4. _____
5. _____

(Part 4)

Short Answer (T:C)

1. What are the three uses of the pliers?
2. What are the two sizes of drive ratchets that Herbert Nishii shows in the lecture?
3. What is the purpose of the extensions?
4. What are the two uses of the drive ratchets and sockets?
5. Why are the ratchets and sockets made in different sizes?

Label the Pictures (TrH)

1. _____

2. _____

3. _____

4. _____

(Part 5)

Multiple Choice (TrA)

1. Standard screwdrivers have tips which are

   a. flat.
   b. round.
   c. pointed.
   d. wedged-shaped.

2. Phillips screwdrivers have tips which are

   a. flat.
   b. square.
   c. pointed.
   d. wedge-shaped.

3. Screwdrivers are used for

   a. removing screws.
   b. taking off screws.
   c. putting on screws.
   d. filing.

(Part 6)

Multiple Choice (TrA)

1. A roloc disc is used with

   a. a standard type of screwdriver.
   b. a special type of screw.
   c. a regular hand drill.
   d. a specially designed type of sandpaper.

2. A roloc disc is used to

   a. grind in tight corners.
   b. grind in small spaces.
   c. sand off paint.
   d. clean out rust.

3. A wire-end brush is used

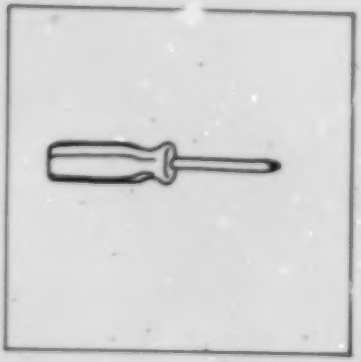
   a. to remove rust which is left behind by the disc grinder.
   b. to remove the painted areas.
   c. to remove rust where the disc grinder or roloc disc can't.
   d. with the hand drill.

Label the Pictures (TrH)

1. _____

2. _____

3. _____



4. _____

(Part 7)

Multiple Choice (TrA)

1. The speed file is

   a. long.
   b. flat.
   c. wide.
   d. narrow.

2. The speed file is

   a. hard to use.
   b. easily handled.
   c. not easily handled.
   d. held comfortably.

3. You need to put _____ on the speed file.

   a. sheets of paint
   b. water
   c. sheets of sandpaper
   d. sheets of metal

4. The speed file is used to

   a. cut the plastic filler.
   b. cut the high spots off the metal.
   c. sand the plastic filler.
   d. reveal high and low spots in plastic filler.
   e. reveal high and low spots in metal.
   f. make plastic filler smooth.

5. The Vixen file is made out of

   a. plastic filler.
   b. metal.
   c. cloth.
   d. plastic.

6. The Vixen file is

   a. wide.
   b. flat.
   c. narrow.
   d. sharp.

7. The Vixen file is used on

   a. wood.
   b. plastic filler.
   c. paint.
   d. metal.

8. The Vixen file is used to

   a. shape plastic filler.
   b. smoothen metal.
   c. cut down high spots on metal.
   d. reveal low spots on metal.

Multiple Choice (continued)

9. The Bondo file looks

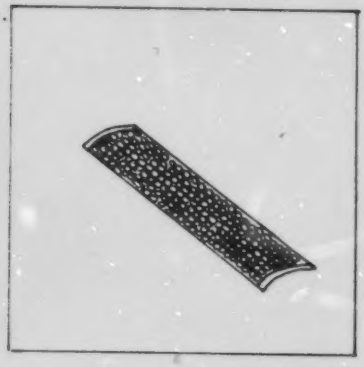
a. like a cheese grater.
b. very wide.
c. slightly round.
d. like a sanding block.

10. The Bondo file is used for

a. shaping plastic filler.
b. cutting plastic filler.
c. cutting metal.
d. smoothening metal.

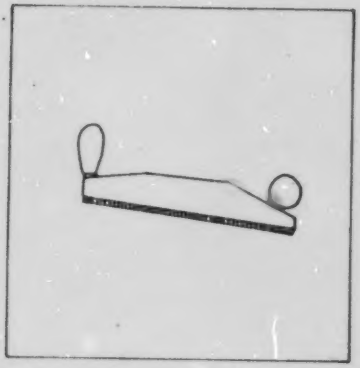
Pick the Pictures (TrI)

a.



b.

c.



1. _____
2. _____
3. _____

(Part 8)

Short Answer (TrC)

1. Name the four parts of the reverse hammer.

Number in Order (TrE)

To pull out a dent with the reverse hammer, you

_____ screw the end into the hole in the dent.

_____ slide the weight along the shaft.

_____ drill a hole into a dent.

_____ pull the dent out.

Multiple Choice (TrA)

1. You use a reverse hammer when

   a. the dent is big.
   b. you cannot reach behind the dent.
   c. your dolly pushes the dent out.
   d. when you can't hammer the dent from the inside.

2. The tin-snips look like

   a. big scissors.
   b. Bondo files.
   c. blow guns.
   d. gardening shears.

3. The tin-snips are used for

   a. pulling dents.
   b. cutting paper.
   c. cutting metal.
   d. cutting plastic filler.

4. The blow gun is used to

   a. clean things off.
   b. blow air.
   c. cut metal.
   d. dry things.

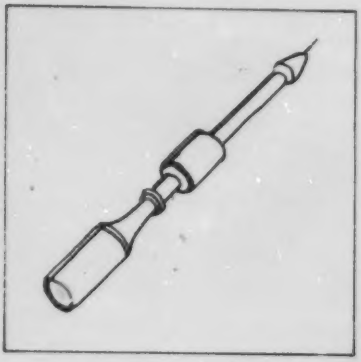
5. The blow gun is connected to a

   a. disc grinder.
   b. line.
   c. compressor.
   d. ratchet.

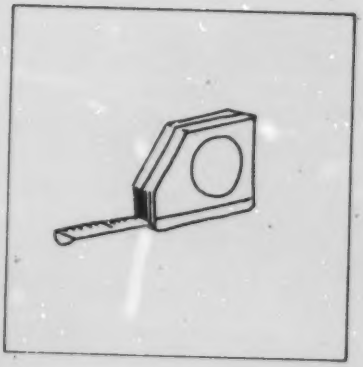
6. The tape measure is used to

   a. measure air.
   b. measure paint.
   c. measure distances.
   d. measure time.

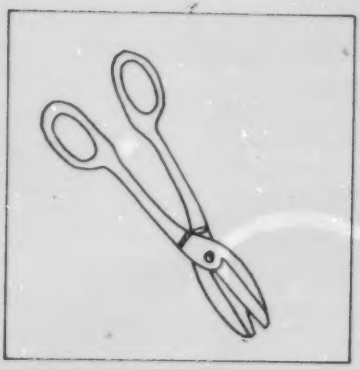
Label the Pictures (TrH)



1. _____



2. _____



3. _____

4. _____

(Part 9)

Multiple Choice (TrA)

1. Putty knives and plastic applicators are used for

   a. mixing plastic filler.
   b. sanding plastic filler.
   c. pulling dents.
   d. applying plastic filler.

2. Another name for plastic applicator is

   a. putty knife.
   b. sanding block.
   c. squee-gee.
   d. plastic filler.

3. The sanding block is

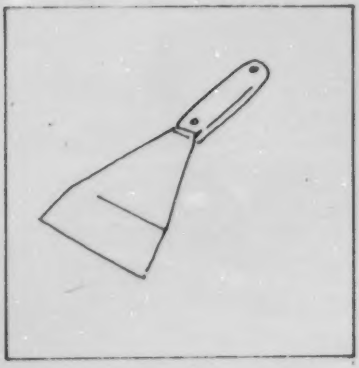
   a. heavy.
   b. flexible.
   c. flat.
   d. easily used.

4. A sanding block is used for

   a. sanding plastic filler.
   b. making smooth surfaces.
   c. making smooth hands.
   d. making presentable surfaces.

Pick the Pictures (TrI)

a.



b.

Pick the Pictures (continued)

c.

1. _____
2. _____
3. _____

UNIT III

VIDEO LECTURE (SERIES A)

POWER TOOLS

PREVIEW

(Part 1)

In his introduction to power tools, Herbert Nishii explains what the power sources are, and why power tools are potentially dangerous to use.

Questions To Think About:

1. What are the power sources of power tools?
2. What is a danger of power tools which are run by electricity?
3. When you use power tools, what is one thing you can do to reduce the danger?

(Part 2)

Herbert Nishii shows two types of disc grinders. He explains the respective power sources, parts, sizes and weights, and functions of both types of grinders. He also tells what the grinders are used for in autobody shops.

Questions To Think About:

1. What is the power source of the larger disc grinder?
2. Where is the on-and-off switch on the larger grinder?
3. How much does the larger disc grinder weigh?
4. How fast does a disc rotate?
5. What is the power source of the smaller disc grinder?
6. Where is the on-and-off switch on the smaller disc grinder?

Preview continued

(Part 3)

Herbert Nishii shows two types of orbital sanders. He explains how you hold each one, what the purposes or uses of the orbital sanders are, and what sandpaper you need to use with both orbital sanders.

Questions To Think About:

1. What are the two types of orbital sanders?
2. What is one use for the orbital sanders?
3. What is another name for "orbital sander"?
4. What is needed in order to use these tools?
5. How do you turn on the rectangular orbital sander?
6. What is another use for the orbital sanders?

(Part 4)

In this part of the lecture, Herbert Nishii describes the straight-line sander. He tells how to hold it, mentions a tool it resembles, and tells what the power source is. He also tells the size, weight, and purpose of the straight-line sander.

Questions To Think About:

1. How do you hold the straight-line sander?
2. What is the power source of this tool?
3. What is the purpose of this tool?

(Part 5)

Herbert Nishii shows two types of polishers (or air buffers). He compares the size of the larger buffer with the disc grinder, and he also compares their rotation speeds. He tells what the polishing heads are made of, and what the uses of the buffers are. He then shows two types of air wrenches, and tells what their purpose is.

Questions To Think About:

1. Which air buffer resembles the disc grinder?
2. How fast do the air buffers spin?
3. How fast does the disc grinder spin?
4. What is the purpose of the polishers?
5. What are the two shapes of the air wrenches?
6. What is the main use of the air wrenches?

(Part 6)

Herbert Nishii explains the zip gun (panel cutter) and the attachments for it which you can use for various purposes. He shows a drawing on the blackboard of what the attachment for cutting metal would look like.

Questions To Think About:

1. What is the basic use of the zip gun?
2. With other attachments, what other things can you do with the zip gun?

EXERCISES

(Part 1)

Multiple Choice (TrA)

1. Power tools are run on

   a. sunlight.
   b. air.
   c. electricity.
   d. water.

2. You have to be careful with your power tools because

   a. they are convenient.
   b. they are all grinders.
   c. they are hazardous.
   d. they are water-powered.

3. Electrical currents could

   a. abuse any of the tools.
   b. give you a shock.
   c. run on your air lines.
   d. be in working order.

4. Air tools

   a. are careful.
   b. are powerful.
   c. run on air lines from a shop compressor.
   d. are good to breathe.

5. Air tools are dangerous because

   a. air produces a lot of power.
   b. air runs on electricity.
   c. air is dangerous.
   d. air gives a shock.

6. When you use power tools,

   a. wear gloves.
   b. run away.
   c. do not abuse them.
   d. be careful.

(Part 2)

Short Answer (TrC)

1. How many handles does the larger disc grinder have?

2. What is the power source of the larger disc grinder?

3. Where is the on-and-off switch?

4. Which handle can you switch to either side of your tool?

Short Answer (continued)

5. How long is the larger disc grinder?

6. How much does the larger disc grinder weigh?

7. The sanding disc rotates at what speed?

8. If the moving disc touches you, what will happen?

True-False (TrB)

_____ 1. The small, compact grinder has a pistol grip.

_____ 2. The small grinder has a trigger.

_____ 3. The small grinder runs on electricity.

_____ 4. The small grinder weighs about 2 to 3 pounds.

_____ 5. The small grinder is about 7 feet long.

Fill in the Blanks (TrD)

1. The disc grinders are used for removing _____, removing _____, and smoothening _____ in your metal.

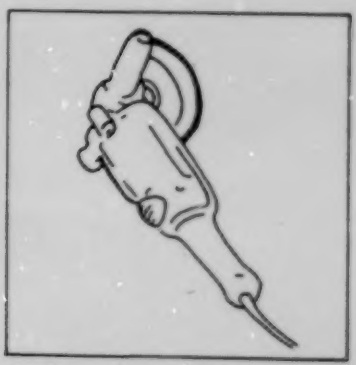
2. The disc grinders are also used to locate _____ in your metal.

3. Also, the disc grinder is used to smoothen a metal called _____, which is sometimes used for filling up _____.

Pick the Pictures (TrI)

a.

b.



1. _____
2. _____

3. _____
4. _____

(Part 3)

Multiple Choice (TrA)

1. The two types of orbital sanders are the

   a. round type.
   b. rectangular type.
   c. square type.
   d. triangular type.

2. Orbital sanders are used for

   a. feather-edging.
   b. painting a metal surface.
   c. making circles.
   d. tapering the paint to make a smooth surface from the old paint to the bare metal.

3. The feather-edged surface

   a. is smooth.
   b. is tapered paint.
   c. has a big step.
   d. is tapered metal.

Short Answer (TrC)

1. What is another name for the orbital sander?

2. How big is the rectangular orbital sander?

3. What do you use with the orbital sander?

4. Where is the on-and-off switch on the rectangular orbital sander?

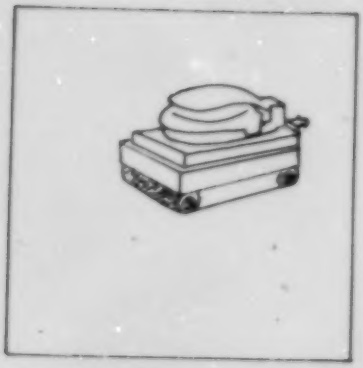
5. How do you turn the rectangular orbital sander on?

6. How do you hold the round orbital sander?

7. What is another use for the orbital sander?

Pick the Pictures (TrD)

a.



b.

1. _____
2. _____

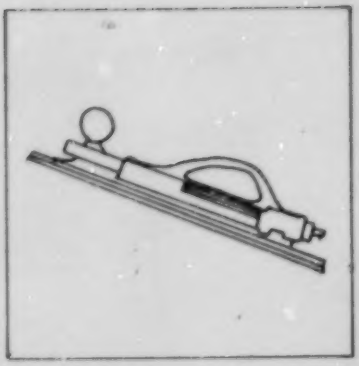
(Part 4)

Fill in the Blanks (TrD)

1. This tool is used for _____.
2. This tool is called the _____.
3. You use _____ hands to hold it.
4. One hand grips the _____ and the other hand holds the _____.
5. The straight-line sander resembles the _____.
6. The straight-line sander is powered by _____, but the speed-file is a hand tool which is powered by _____.
7. The straight-line sander is about _____ inches wide and _____ inches long.
8. The straight-line sander weighs about _____ pounds.
9. Again, the purpose of the straight-line sander is _____.

Label the Pictures (TrH)

1. _____



2. _____

(Part 5)

Multiple Choice (TcA)

1. The polishers are also called

   a. portions.
   b. air buffers.
   c. electric grinders.
   d. compounders.

2. The larger polisher resembles

   a. the smaller one.
   b. a disc grinder.
   c. an orbital sander.
   d. a straight-line sander.

3. The polishers spin at about

   a. 4,000 - 5,500 r.p.m.
   b. 2,500 - 3,000 r.p.m.
   c. 25,000 - 30,000 r.p.m.
   d. 3,000 - 4,500 r.p.m.

4. The polishers spin _____ the electric grinders.

   a. slower than
   b. faster than
   c. at the same speed as
   d. at double the speed of

Multiple Choice (continued)

5. The polisher heads are made of

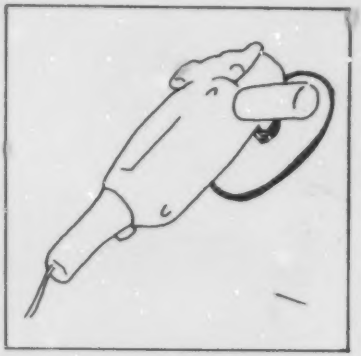
   a. cloth.
   b. polish.
   c. wool.
   d. sandpaper.

6. The polishers are used for

   a. compounding cars.
   b. shining shoes.
   c. painting cars.
   d. polishing cars after painting them.

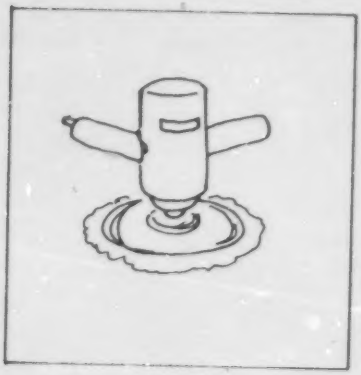
Label the Pictures (TrH)

1. _____



2. _____

Label the Pictures (continued)



3. _____

Multiple Choice (TrA)

1. Air wrenches come in

   a. ratchet shapes.
   b. pistol shapes.
   c. hand-form shapes.
   d. square shapes.

2. You use air wrenches to

   a. remove nuts and bolts faster.
   b. remove air tools.
   c. remove the air.
   d. remove the shapes.

(Part 6)

Multiple Choice (TrA)

1. This tool is mainly used for

   a. cutting panels.
   b. cutting metal.
   c. separating welded metal.
   d. welding metal.

2. What are two names for this tool?

   a. final tool.
   b. panel cutter.
   c. zip gun.
   d. attachments.

Multiple Choice (continued)

3. To use the zip gun you need

   a. welds.
   b. attachments.
   c. hammers.
   d. illustrations.

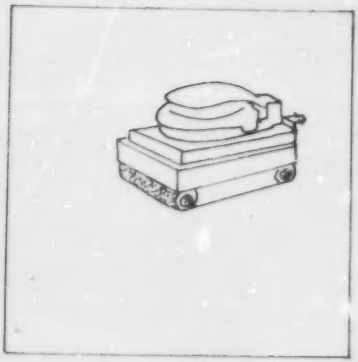
4. With the zip gun you can also

   a. hammer things.
   b. screw things.
   c. fry eggs.
   d. smash things.

5. The zip gun attachment for cutting metal is

   a. thick.
   b. long.
   c. sharp.
   d. heavy.

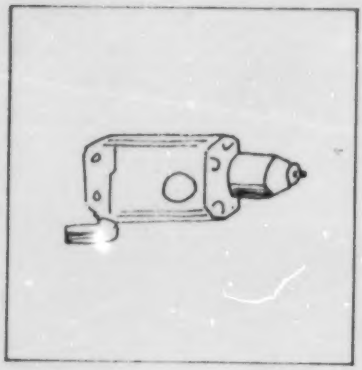
Label the Pictures (TrH)



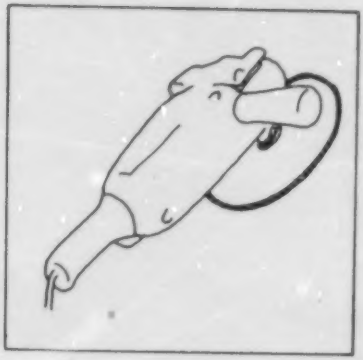
1. _____

2. _____

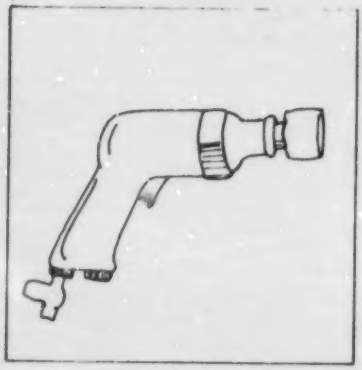
Label the Pictures (continued)



3. _____



4. _____

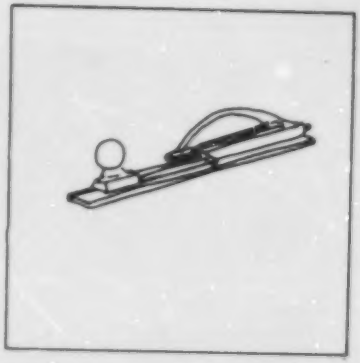


5. _____

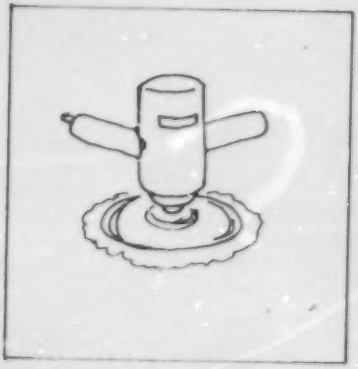
6. _____

Label the Pictures (continued)

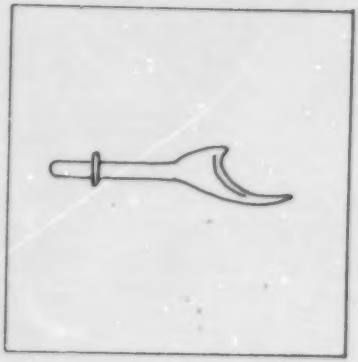
7. _____



8. _____



9. _____



10. _____

UNIT IV

VIDEO LECTURE (SERIES A)

USE OF HAMMER AND DOLLY

PREVIEW

(Part 1)

Herbert Nishii, introduces the lecture, explains the proper way to hold the finishing hammer, and he also shows how to control the motion of the hammer when doing body and fender work.

Questions To Think About:

1. What tools will you use in metal bumping and dinging?
2. How do you hold a hammer when you pound nails?
3. How should you hold your hammer for body and fender work?

(Part 2)

In this part of the lecture, Herbert Nishii explains how to hold the dolly and demonstrates the hammer-on-dolly technique.

Questions To Think About:

1. How do you hold the dolly?
2. For hammer-on-dolly technique, where do you place the dolly?
3. Why does the metal bulge sometimes when you hammer-on-dolly?
4. How can you prevent the metal from bulging?

Preview continued

(Part 3)

In this part, Herbert Nishii demonstrates the hammer-off-dolly technique in metal bumping and dinging.

Questions To Think About:

1. For hammer-off-dolly, where do you place the dolly?
2. When you hammer-off-dolly, do you bounce the dolly?
3. What is the purpose of the hammer-off-dolly technique?

(Part 4)

This part shows some illustrations of the positions of the hammer and dolly for the hammer-on-dolly and hammer-off-dolly techniques.

Questions To Think About:

1. How do you position the tools for hammer-on-dolly technique?
2. How do you position the tools for hammer-off-dolly technique?

EXERCISES

(Part I)

Multiple Choice (TrA)

1. The basic operation called "metal bumping and dinging" with the use of the hammer and dolly is also called

   a. using two tools.
   b. hammer-on-dolly operation.
   c. pulling operation.
   d. metal operation.

2. The hammer you use for metal bumping and dinging is the

   a. finishing hammer.
   b. picking hammer.
   c. ball-peen hammer.
   d. shrinking hammer.

3. When you hammer nails, you

   a. grip the hammer tight.
   b. control the hammer with your wrist.
   c. hold the hammer with your fingers.
   d. pound away.

4. In body and fender work, you have to control your hammer

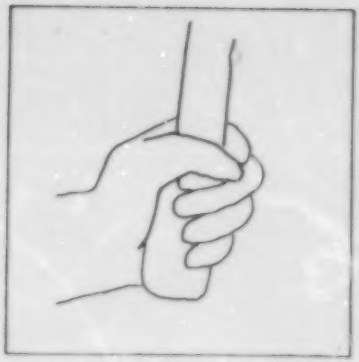
   a. through your wrist.
   b. through your palm.
   c. through your arm.
   d. through your fingertips.

5. You should hold the finishing hammer handle

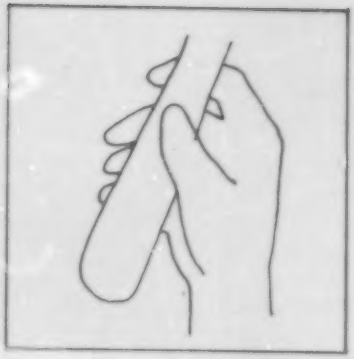
   a. in your palm.
   b. between your thumb and fingertips.
   c. in the back of your palm.
   d. with your wrist.

Pick the Pictures (TrI)

a.



b.

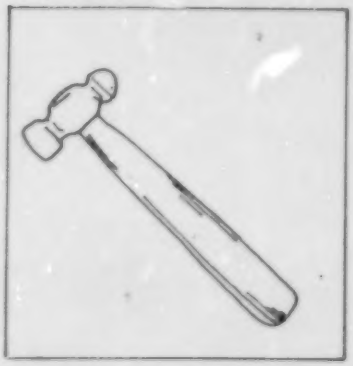


1. _____
2. _____

Pick the Pictures (TrI)

a.

b.



Pick the Pictures (continued)

c.

1. _____

(Part 2)

Multiple Choice (TrA)

1. Another name for the dolly block is

   a. hammer.
   b. tool box.
   c. high crown dolly.
   d. puller.

2. The part of the dolly you use when hammering metal is

   a. only the high crown.
   b. just the flat part.
   c. any part.
   d. the point.

3. The two basic operations with a dolly are

   a. hammer-in-dolly.
   b. hammer-on-dolly.
   c. hammer-by-dolly.
   d. hammer-off-dolly.

4. The metal will bulge if

   a. you bouce the dolly.
   b. you don't bounce the dolly.
   c. you feel comfortable.
   d. you hold the dolly in place.

Multiple Choice (continued)

5. When you hammer-on-dolly, you should

   a. sometimes feel the contour of the body.
   b. not bounce your dolly.
   c. stretch the metal.
   d. bounce your dolly.

Draw Lines (TrF)

| | |
|---|---|
| conform | hit |
| end up | finish |
| blow | shape |
| contour | fit |
| portion | wind up |
| | match |
| | part |
| | piece |

(Part 3)

Multiple Choice (TrA)

1. The purpose of hammer-off-dolly is to

   a. find a low spot.
   b. hammer a high spot down.
   c. push a low spot up.
   d. make a slight ridge.

2. A high spot is

   a. an area of raised metal.
   b. a ridge in the metal.
   c. a hole in the metal.
   d. a low area in the metal.

3. For hammer-off-dolly, you

   a. place the dolly behind the low spot.
   b. push the dolly up.
   c. use a springing action with the dolly.
   d. hammer on the high spot.
   e. hammer with the dolly.

4. When you have finished the hammer-off-dolly technique,

   a. the high spot has become lower.
   b. the high spot has gotten bigger.
   c. the low spot has risen.
   d. the low spot has become lower.
   e. the whole metal area has become higher.

Multiple Choice (continued)

5. The sound of the hammer-off-dolly is _____ the sound of the hammer-on-dolly.

   a. higher than
   b. lower than
   c. the same as

6. After you finish hammer-off-dolly or hammer-on-dolly, you can

   a. plastic fill.
   b. grind the metal.
   c. dent the metal.
   d. pull the dents.

(Part 4)

Fill in the Blanks (TrD)

1. For hammer-on-dolly, you place the dolly behind the _____ spot.

2. For hammer-off-dolly, you place the dolly behind the _____ spot.

3. For hammer-off-dolly and hammer-on-dolly, you hammer directly onto the _____ spot.

4. For hammer-off-dolly, you _____ the dolly.

Multiple Choice (TrA)

1. The primary purpose of hammer-on-dolly and hammer-off-dolly is

   a. to smoothen metal.
   b. to grind the metal.
   c. to plastic fill.
   d. to weld the metal.

Pick the Pictures (TrI)

a.

b.

1. _____

UNIT V

VIDEO LECTURE (SERIES A)

PICKING AND FILING

PREVIEW

(Part 1)

In this part of the lecture, Herbert Nishii introduces the picking and filing operation. He also tells which tools are used for this technique, and tells when and why picking and filing is done.

Questions To Think About:

1. What are the parts of the pick hammer?
2. What are the parts of the Vixen file?
3. Is picking and filing often done in autobody shops?

(Part 2)

In this part of the lecture, Herbert Nishii shows how to hold and use the picking hammer to pick up a dent.

Questions To Think About:

1. What is the correct way to hold the pick hammer?
2. How do you find the correct spot for picking?

54

Preview continued

(Part 3)

In this part of the lecture, Herbert Nishii explains the use of the Vixen file for filing the area which was picked up. This process permits you to make a smooth metal surface without using plastic filler.

Questions To Think About:

1. What is the correct way to hold the Vixen file?
2. What does the blade of the Vixen file look like?
3. Why don't you need plastic filler?

EXERCISES

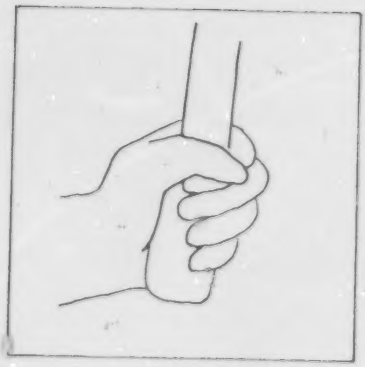
(Part 1)

Fill in the Blanks (TrD)

1. This lecture is to demonstrate a technique for creating a _____ job.
2. The tools you use for picking and filing are the _____ and the _____.
3. You will use the _____ of your hammer for picking.
4. The Vixen file has two parts, a _____ and a _____.
5. The Vixen file blade has a cutting _____.
6. Picking and filing is done on cars which are owned by _____, _____, or _____.
7. Picking and filing is rarely done in the autobody shop because _____.

Pick the Pictures (TrI)

a.



b.

Pick the Pictures (continued)

c.

1. _____

(Part 2)

Short Answer (TrC)

1. When holding the pick hammer for picking, in what direction does your index finger point?

2. Where are your other fingers and your thumb when holding the pick hammer?

3. What part of your body do you move when using the picking hammer?

4. How do you locate the area you want to pick up?

5. Is it necessary to draw an X?

(Part 3)

Multiple Choice (TrA)

1. On the blade of the Vixen file are

   a. grooves.
   b. ridges.
   c. strokes.
   d. hands.

2. The direction that the ridges curve

   a. is where you grab.
   b. is the direction you push or pull the file.
   c. is the direction the file won't cut.
   d. is the direction the file will cut.

3. If the ridges are pointing towards the front, and if you pull the file, it

   a. will cut the pimples off.
   b. will not cut the pimples off.
   c. will make ridges in the file.
   d. will cross the file.

4. When you file in one direction and then in another direction, you are doing a type of filing called

   a. back-filing.
   b. opposite-filing.
   c. front-filing.
   d. cross-filing.

5. The reason picking and filing is called a quality job is that

   a. you pick up all the low spots.
   b. you create a smooth finish with the metal itself.
   c. you use no plastic filler.
   d. you do a nice job.

Short Answer (TrC)

1. To finish the picking and filing job, what will Herbert Nishii have to do?

2. How will Herbert Nishii know when all the low spots have been picked up?

3. Why does picking and filing demand a lot of patience?

UNIT VI

VIDEO LECTURE (SERIES A)

USE OF THE DISC GRINDER

PREVIEW

(Part 1)

In this part of the lecture, Herbert Nishii gives an introduction to the lecture. He then describes the disc grinder, tells what it is used for, and names the parts of the grinder.

Questions To Think About:

1. Is an electric disc grinder a dangerous machine?
2. What are the uses of the disc grinder?
3. What are the different parts of the disc grinder?

(Part 2)

In this part of the lecture, Herbert Nishii tells about and shows the various abrasive discs used with the disc grinder. He then tells what kinds of jobs the different discs are used for.

Herbert Nishii then demonstrates how to put a disc on the disc grinder backing pad.

Then the two methods of grinding are explained. The method for smoothening the metal to produce a quality job is explained in detail first.

Then the other method for using the disc grinder is explained. This method is used to create a rough surface on the metal for plastic filler to adhere to.

Questions To Think About:

1. What are the three types of discs used in autobody shops?
2. What is the number of the grit for each type of disc?
3. How do you put a disc on the grinder?
4. How many discs do you need when your purpose is to smoothen the metal and not use plastic filler?

Preview continued

Questions To Think About: (continued)

5. How many discs do you need when your purpose is to roughen the surface in order to use plastic filler on it?

(Part 3)

In this part of the lecture, Herbert Nishii tells you first about safety measures necessary when using the disc grinder. He mentions how to protect yourself from the dangerous cutting edge, the electrical current and cord, and how to protect your face and eyes from pieces of metal and paint thrown from the grinding surface.

He also demonstrates both grinding techniques-- the one for smoothening the metal for a quality job, and then the one for roughening the metal (in order to apply plastic filler on it later). He also tells you how to avoid warping the panels as you grind.

Questions To Think About:

1. How fast does the disc of the disc grinder rotate?

2. How can you reduce the possibility of getting shocked?

3. What is the purpose of the safety shield?

4. When you grind the metal for a quality smoothening job, how much of the disc do you use?

5. When you grind the metal to roughen it, how much of the disc do you use?

6. Why should you feel the metal occasionally as you grind?

EXERCISES

(Part 1)

Short Answer (TrC)

1. What kind of machine is the disc grinder?

2. What is the power source of Herbert Nishii's disc grinder?

3. What are four uses of the disc grinder?

4. Name the seven parts of the disc grinder.

(Part 2)

Multiple Choice (TrA)

1. What are three types of abrasive discs?

   a. fine
   b. smooth
   c. medium
   d. coarse

2. The 16-grit disc is used for creating a

   a. rough surface.
   b. fine surface.
   c. smooth surface.
   d. nice job

3. The 16-grit disc is used

   a. to remove paint.
   b. before using plastic filler.
   c. on anyone.
   d. on bumpers.

Draw Lines (TrF)

| | |
|---|---|
| 36-grit | medium grit |
| 16-grit | heavy grit |
| 24-grit | fine grit |

Multiple Choice (TrA)

1. The 24-grit disc is

   a. used for grinding bumpers.
   b. used for picking up metal.
   c. used like the 16-grit disc.
   d. finer than the 16-grit disc.

Multiple Choice (continued)

2. The 36-grit disc is used for

a. grinding hoods.
b. polishing paint.
c. removing paint.
d. grinding bumpers before re-chroming.

Number in Order (TrE)

To put a disc on a grinder, you

_____ put the lock unit back into the center.

_____ remove the lock unit.

_____ tighten the lock unit.

_____ turn the backing pad.

_____ put your disc on the backing pad.

_____ hold the back of the grinder.

_____ take off the backing pad.

_____ put the backing pad on the grinder.

Multiple Choice (TrA)

1. When you want to smoothen metal for a quality job, you

a. use only a rough 16-grit sandpaper.
b. use 16-grit, then 24-grit, and then 36-grit sandpaper.
c. grind with almost the whole area of your disc.
d. grind with the edge of the disc for economy.

2. When you want to prepare a surface for plastic filler, you

a. use only a rough 16-grit sandpaper.
b. use 16-grit, then 24-grit, and then 36-grit sandpaper.
c. grind with almost the whole area of your disc.
d. grind with the edge of the disc for economy.

(Part 3)

Multiple Choice (TrA)

1. If you put your hand on the edge of the moving disc, you will

   a. go 5,500 r.p.m.
   b. smoothen your hand.
   c. get a slice or cut.
   d. get a nice clean hand.

2. To eliminate or reduce the possibility of getting shocked, you

   a. should check the cord for breaks and tears.
   b. use a two-prong plug.
   c. make sure all the prongs are grounded.
   d. break the cord.

3. To protect your eyes you should

   a. wear overalls.
   b. wear a safety shield.
   c. wear scratches.
   d. look dirty.

4. Before you plug the grinder in, make sure

   a. everything is attached.
   b. your disc is on.
   c. you don't have to change anything.
   d. you put on your face shield.

5. For the quality grinding method, you

   a. use only the edge of the disc.
   b. use only one coarse disc.
   c. use as much of the disc as possible.
   d. use three discs, changing them from coarse to fine.

6. For the preparation for filler grinding method,

   a. the angle of the disc is tilted.
   b. keep the disc as flat as you can.
   c. never touch the metal.
   d. use the least amount of area on the disc.

7. If the metal gets hot enough to burn your hand

   a. you should take chances.
   b. you should not touch it.
   c. chances are great that the panel will warp.
   d. water will warp it.

8. To keep your metal from getting too hot, you should

   a. feel the metal often.
   b. keep the grinder tilted.
   c. use water.
   d. keep the grinder moving.

UNIT VII

VIDEO LECTURE (SERIES A)

PLASTIC FILLING

PREVIEW

(Part 1)

This part of the lecture is an introduction to plastic filling. First, Herbert Nishii explains that the use of plastic filler has revolutionized the autobody industry. He then shows the tools and supplies used in filling dents.

Questions To Think About:

1. Why has the use of plastic filler changed the autobody industry so much?
2. What was used to fill dents before plastic filler was created?
3. What supplies will you need to use in filling dents?
4. What tools will you need?

(Part 2)

In this part of the lecture, Herbert Nishii shows the types of surfaces ready for application of plastic filler. He then shows how to prepare the plastic filler and cream hardener for use. He then shows how to mix the plastic filler with the cream hardener and how to apply it to the metal surfaces.

Questions To Think About:

1. Do you need to remove all of the paint from the metal to prepare the surface for plastic filler? Why or why not?
2. Why does Herbert Nishii massage the cream hardener tube?
3. Why is it necessary to keep the plastic filler can covered?

Preview continued

Questions To Think About: (continued)

4. When you mix the cream hardener and the plastic filler together, how long should you keep mixing?

5. How do you clean your tools?

(Part 3)

In this part of the lecture, Herbert Nishii demonstrates how to cut, shape, and sand the plastic filler.

Questions To Think About:

1. Should you take any safety precautions when cutting and sanding plastic filler?

2. When should you begin to cut the plastic filler?

3. What part of the Bondo file do you use when cutting and shaping the plastic filler?

4. When you use the feather-edger to sand the plastic filler, what different grits of sandpaper could you use?

EXERCISES

(Part 1)

Multiple Choice (TrA)

1. Plastic filling has revolutionized the autobody industry because

   a. it has cut time in half.
   b. body work can be done very quickly.
   c. it is very interesting.
   d. production is speeded up.
   e. it is a hand tool.

2. Before plastic filler was created, they filled dents with

   a. rough paint.
   b. sand.
   c. lead.
   d. sheet metal.

3. The brand name of the plastic filler which Herbert Nishii is using is

   a. Cuz.
   b. Napa.
   c. Catalyst.
   d. Filler.

4. "Hardening agent" also means

   a. filler.
   b. hard surface.
   c. catalyst.
   d. hardener.

5. Other tools you can use for this operation are

   a. plastic squee-gees.
   b. putty knives.
   c. Bondo files.
   d. hardware stores.

6. Another name for Bondo file is

   a. surface file.
   b. resin file.
   c. razor blade.
   d. sur-form file.

7. Bondo files are used to

   a. shape the plastic filler before it hardens.
   b. shine the plastic filler.
   c. sand the plastic filler before it hardens.
   d. cut the plastic filler before it hardens.

Multiple Choice (continued)

8. Cardboard is not a good surface for mixing Bondo because

a. it is not flat.
b. it is colored.
c. it soaks up the liquids in Bondo.
d. it is a power tool.

9. For smoothening the Bondo use the

a. feather-edger.
b. orbital sander.
c. sanding block.
d. dinging hammer.

10. The lower the number on your sandpaper

a. the finer it is.
b. the rougher it is.

11. The 40-grit sandpaper is a

a. fine sandpaper.
b. medium sandpaper.
c. coarse sandpaper.

12. The 150-grit sandpaper is a

a. fine sandpaper.
b. medium sandpaper.
c. coarse sandpaper.

13. The finest sandpaper on the market is

a. 36-grit.
b. 40-grit.
c. 100-grit.
d. 600-grit.

(Part 2)

Multiple Choice (TrA)

1. What are the two surfaces for plastic filling which Herbert Nishii shows in the lecture?

a. bare metal surface
b. wet surface
c. 36-grit surface
d. rough surface

2. Which surface is recommended on your plastic filler can?

a. bare metal
b. rough

3. Which surface is recommended in the industry?

a. bare metal
b. rough

Multiple Choice (continued)

4. Why should you make a rough surface when you need to work fast?

   a. The rough grinding takes less time.
   b. The rough grinding looks better.
   c. The plastic filler bonds to the rough surface better.
   d. It will peel nicely when it is rough.

5. Why is a bare metal surface not good when you need to work fast?

   a. The bare metal is not shiny enough.
   b. You can't paint right away.
   c. The plastic filler tends to peel from the bare metal surface.
   d. The bare metal has a rough surface.

6. You need to mix your plastic filler because the

   a. liquid rises to the top of the can.
   b. heavier material rises to the top of the can.
   c. liquid settles at the bottom of the can.
   d. heavier material settles at the bottom of the can.

7. When you mix the cream hardener with the plastic filler

   a. the filler gets hard.
   b. you can put the filler back into the can.
   c. do not put the filler back into the can.
   d. the filler will separate.

8. To mix the cream hardener, you

   a. use a putty knife.
   b. put filler inside.
   c. massage the tube.
   d. use a squee-gee.

9. You should always cover your filler so that

   a. all of the liquids evaporate.
   b. none of the liquids evaporate.
   c. air does not get in it.
   d. air will get in it.

10. When you mix the cream hardener and the plastic filler together, you should use a

    a. swirling motion.
    b. kneading motion.
    c. putty knife.
    d. squee-gee.

11. You should mix the cream hardener and plastic filler until

    a. all the streaks come out.
    b. it looks like bread.
    c. it has streaks of red and light grey in it.
    d. it has an even color all the way through.

Multiple Choice (continued)

12. After you apply the plastic filler, remember to

a. have soft spots in your filler.
b. wash your hands.
c. clean your tools.
d. look for very very hard spots.

(Part 3)

Multiple Choice (TrA)

1. To protect your lungs from plastic filler dust, you need

a. plastic filler.
b. a particle mask.
c. a Bondo file.
d. a respirator.

2. You should cut the Bondo when it is

a. hard.
b. hardening a little bit.
c. still a little soft.
d. in your mask.

3. When you are filing remember to

a. cross file.
b. double your work.
c. get the proper contour
d. drop your file.
e. work from inside-out.
f. work from the outside edge in.
g. work comfortably.
h. work slowly.

4. With a half-round Bondo file, you should use

a. the whole file.
b. the middle of the file.
c. the outside edge.
d. the end of the file.

5. When you use the feather-edger to sand plastic filler, you can use

a. a 36-grit or 40-grit sandpaper for fast sanding.
b. a 60-grit or 80-grit sandpaper for fast sanding.
c. a 36-grit or 40-grit sandpaper for smooth sanding.
d. a 60-grit or 80-grit sandpaper for smooth sanding.

6. In a shop, when you are working fast for production, what tool do you use to sand the plastic filler?

a. Vixen file
b. Bondo file
c. sanding block
d. feather-edger

Multiple Choice (continued)

7. You are finished with your body work when you

a. finish sanding.
b. put on glazing putty.
c. put on a coat.
d. finish painting.

UNIT VIII

VIDEO LECTURE (SERIES A)

WELDING

PREVIEW

(Part 1)

Herbert Nishii gives an introduction to welding by naming and comparing the two types of welding setups which can be found in shops. He also explains the uses of the oxyacetylene torches. He then names and explains the parts of the oxyacetylene torch setup. Finally, he shows and explains the other equipment, tools, and materials needed for oxyacetylene welding or brazing.

Questions To Think About:

1. What are the two types of welding setups?
2. What is the oxyacetylene torch used for in an autobody shop?
3. What are the parts of the oxyacetylene torch setup?
4. What are the tools and supplies needed for oxyacetylene welding?

(Part 2)

Herbert Nishii tells about safety measures for welding. He then shows how to turn on the tanks and regulators and adjust the flame on the torch. He explains the proper way to prepare the surface for welding, and then explains and shows the procedures for steel rod welding. He also shows how to quench the welded area, hammer the weld down, and use the wire brush to keep the surface clean. He makes a good, even weld (bead), and then makes a bad, uneven bead so you can compare the way they look.

Questions To Think About:

1. What are two safety measures for welding?
2. What is the correct sequence for turning on and adjusting the tanks and regulators and torch valves?

Preview continued

Questions To Think About: (continued)

3. How can you prepare the surface for welding?

4. Why do you quench the metal?

5. Why do you use the wire brush?

6. What is the bad weld (bead) called?

(Part 3)

Herbert Nishii demonstrates the welding movements of the torch tip and rod, with the torch flame off to show the movements more clearly. He then explains and demonstrates the brazing techniques. He shows the equipment, tools, and supplies he will need. He demonstrates the metal heating procedure for brazing, and how to coat the rod with flux and apply the braze onto the metal. He makes two brazes so that the appearances of a good one and an uneven one can be compared. He also explains the method of putting a patch onto metal by tack welding and stitch welding to make a continuous braze. Finally, Herbert Nishii shows the correct sequence to turn off all valves, tanks and regulators.

Questions To Think About:

1. What equipment, tools, and supplies are needed for brazing?

2. How should you heat the metal surface for brazing?

3. How should you coat the brazing rod with flux?

4. What does a good braze bead look like?

5. What does a bad braze bead look like?

6. What is a stitch weld? What is a tack weld?

7. Why should you apply patches with tacks and then stitches, rather than just continuing to weld all the way around the patch?

8. What is the correct sequence for turning off the valves, tanks, and regulators?

EXERCISES

(Part 1)

True-False (TrB)

_____ 1. In this lecture Herbert Nishii will demonstrate the arc welding electrical torch setup.

_____ 2. Most shops do not have arc welders.

_____ 3. Most shops specialize in frame repair.

_____ 4. Oxyacetylene torches are used for making patches and for welding tears and breaks in fenders.

_____ 5. Oxyacetylene torches are cheaper than arc welders.

_____ 6. Oxyacetylene torches are not as dangerous as arc welders.

Fill in the Blanks (TrD)

1. The large, green container has _____ in it.

2. The smaller container has _____ in it.

3. The acetylene tank is painted _____, _____, or _____.

4. _____ is a flammable gas.

5. _____ is a non-flammable gas.

6. _____ show how much gas you have in your tanks.

7. _____ with smaller numbers show how much pressure is in the gas lines.

8. The regulator and main valve are used to _____ the gas.

9. The acetylene line on your torch, is colored _____.

10. The oxygen line on your torch is colored _____.

11. The _____ torch tip comes off very easily and can be put on very easily.

12. You should point your torch tip in the direction that the _____ point.

Fill in the Blanks (continued)

13. If you have the torch tip in the proper direction, you have easier _____ to your valves.

14. If your hand or wrist accidentally moves a valve on the torch, you might _____ your mixture of oxygen and acetylene.

Short Answer (TrC)

1. Name six other things you will use when you are welding.

2. What are the names of the three types of rods shown in the lecture?

3. What are the brazing rods used for?

4. What are the welding rods used for?

(Part 2)

Cloze (TrG)

Okay. To introduce you a little bit more into your

w _ _ _ _ _ _, before I start actual welding, would be your

s _ _ _ _ _ _. In the safety, you don't have to r _ _ _ _ _ _ _

very much. Just have to remember to wear your g _ _ _ _ _ _,

protect your eyes from any s _ _ _ _ _ flying from the

welded area. Also it's to p _ _ _ _ _ _ your eyes from

getting blind, from getting b _ _ _ _ _. Because these lenses

are treated, they're dark, dark lenses. They're d _ _ _ _ _

than your regular sun glasses. They protect your eye a lot

b _ _ _ _ _. Another thing is, when you work with your torch,

_ _ _ _ _ _ _ of using a lighter, a regular cigarette lighter,

try to use your s _ _ _ _ _ _. Your striker produces only the

spark to i _ _ _ _ the torch. It doesn't produce a g _ _

and a spark, which your lighter does. So try to use only your

s _ _ _ _ _ _.

Short Answer (TrC)

1. Where should you stand when turning the tanks on?

2. What would happen if the regulator joint breaks or is faulty?

3. Why shouldn't you breathe the acetylene gas?

4. What should you do if you have any leaks in your acetylene tank, regulator, hose, or torch?

5. If somebody lights a cigarette when there is an acetylene leak in your torch setup, what might happen?

6. Is oxygen flammable when it is concentrated?

Number in Order (TrE)

To prepare your equipment for welding,

_____ use the striker to light the torch.

_____ adjust the oxygen pressure to 10 on the regulator.

_____ turn on the acetylene tank main valve a quarter-turn.

_____ open the oxygen valve on the torch.

_____ adjust the acetylene pressure to 5 on the regulator.

_____ turn on the oxygen tank main valve all the way.

_____ open the acetylene valve on the torch.

Fill in the Blanks (TrD)

1. Right after you light your torch, the acetylene will create a flame with a lot of _____.

2. When you turn up the acetylene, the flame will _____ and there will be a lot less _____. There will also be a _____ color close to the torch tip.

3. When you open the oxygen, an ideal flame will have a _____ in the middle.

4. If you have too much oxygen, there will be a _____ sound.

5. If you have too little oxygen, you will have a long, _____ flame with two separate _____.

Fill in the Blanks (continued)

6. When you turn off your torch, you turn off your _____ first.

Short Answer (TrC)

1. How do you prepare the metal surface for welding?

2. What is the purpose of steel welding rods?

3. What is the purpose of your hammer in this procedure?

4. What is the purpose of the wire brush?

5. What is the purpose of the water and rag?

6. If you put too much heat onto your panel, what might happen?

Multiple Choice (TrA)

1. In steel rod welding you heat up the panel to make a

   a. panel shape.
   b. panel warping.
   c. molten puddle.
   d. neutral flame.

2. After heating your panel, you put the steel rod into the puddle to make your

   a. heat.
   b. torch.
   c. flame.
   d. bead.

3. The ideal flame for your torch is also called a

   a. bead.
   b. neutral flame.
   c. rod.
   d. liquid state.

4. You should hold your torch at an angle of

   a. forty-five degrees.
   b. fifty-five degrees.
   c. fourteen degrees.
   d. ninety degrees.

5. As you weld, _____ might get on your clothes.

   a. filler
   b. sparks
   c. paint
   d. dirt

6. To get an even bead you need

   a. a friend.
   b. money.
   c. rods.
   d. practice.

Multiple Choice (continued)

7. An uneven bead is also called

a. an ugly bead.
b. chickens.
c. chicken-shit.
d. steel rod welding.

(Part 3)

Fill in the Blanks (TrD)

1. When you weld, you should let the _____ in the flame touch the metal itself.

2. You should move the torch tip in small _____.

3. As the molten puddle forms, you keep the torch moving _____.

4. It takes a lot practice in order to get _____.

Short Answer (TrC)

1. Why are there two types of brazing rods?

2. What is the white coating on one of the brazing rods?

3. How do you coat the brazing rod which does not have the white coating?

4. Which kind of brazing rods do most shops have? Why?

5. Do you create a molten puddle when you are brazing?

6. When you heat the metal, what color should it be?

7. What is the welding or brazing torch flame called?

8. To coat the brazing rod with flux, what two things do you need to do?

9. As you are brazing, how often do you need to flux-coat your rod?

10. What is the purpose of the flux?

Fill in the Blanks (TrD)

1. You don't want a big bead when you are brazing because _____.

Fill in the Blanks (continued)

2. You should try to keep your bead very _____ and _____.

3. Your hammer is used to _____ your braze.

4. Your wire brush is used to _____ _____.

5. A good bead is _____ and _____.

Number in Order (TrE)

To braze the metal, you

_____ dip the rod into the can of flux.

_____ use your hammer.

_____ heat the metal to a cherry red.

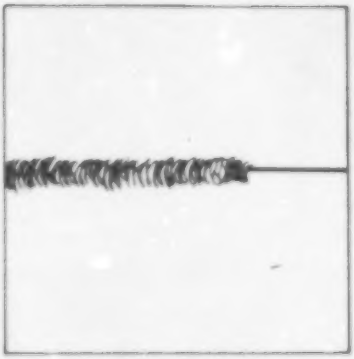
_____ use the wire brush.

_____ heat the end of the brazing rod.

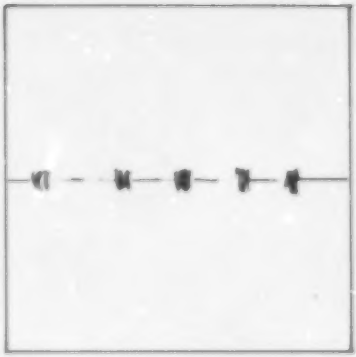
_____ apply the rod and torch to the heated metal.

_____ quench the area.

Label the Pictures (TrH)

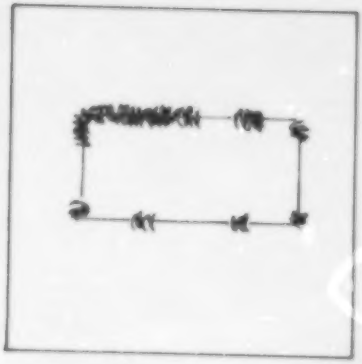


1. _____



2. _____

Label the Pictures (continued)



3. _____

Multiple Choice (TrA)

1. You need to tack and stitch weld because

   a. continuous welding is faster.
   b. continuous welding will over-heat the panel.
   c. tacking and stitching look better.
   d. tacking and stitching is harder to do.

2. When you are welding or brazing, if the panel gets too hot you should

   a. burn yourself.
   b. make a continuous bead.
   c. turn the flame away from the panel.
   d. quench the metal.

3. You can learn more about welding from

   a. shop experience.
   b. school.
   c. reading up on it.
   d. the newspaper.

Number in Order (TrE)

To turn off the valves, tanks and regulators, you

_____ turn off the oxygen valve on your torch.

_____ open the acetylene valve on your torch, let the acetylene escape from the line, and close the valve.

_____ turn off the acetylene tank.

_____ turn off the oxygen tank.

_____ open the acetylene tank regulator.

_____ open the oxygen valve on your torch, let the oxygen escape from the line, and close the valve.

_____ open the oxygen tank regulator.

_____ turn off the acetylene valve on your torch.

UNIT IX

VIDEO LECTURE (SERIES A)

THE SPRAY GUN

PREVIEW

(Part 1)

In this introduction, Herbert Nishii explains the importance of the spray gun in autobody repair work. He then tells the uses of the three types of spray guns found in autobody shops, and also mentions the names of three manufacturers of good quality spray guns.

Questions To Think About:

1. Why is the spray gun (and the paint job it produces) so important in autobody repair shops?
2. What are the three types of spray guns?
3. What are the names of three manufacturers of good paint guns?
4. Which is the newest model paint gun?

(Part 2)

Next, Herbert Nishii names and describes the functions of many parts of the spray gun.

Questions To Think About:

1. What are the names of the spray gun parts?
2. How many adjustment knobs are there?
3. How do you find out how much air pressure is going into the gun?
4. What will keep the paint from dripping out of the Sharpe model gun if you are painting upside down or sideways with it?

Preview continued

(Part 3)

Herbert Nishii describes the adjustments for the spray gun in more detail.

Questions To Think About:

1. How do you change the size (width) of your fan (spray pattern)?
2. How do you adjust the amount of air going into the gun?
3. How do you adjust the amount of paint coming out of your gun?
4. How do you make a horizontal fan (spray pattern) become a vertical one?

EXERCISES

(Part I)

Multiple Choice (TrA)

1. The spray gun is one of the most important tools in your shop because

   a. it does important body work.
   b. it creates the paint job that customers see.
   c. you will paint the body-fender shop with it.
   d. it is very glossy and smooth.

2. A primer gun is

   a. filled with primer.
   b. spotless.
   c. filled with lacquer.
   d. dirty.

3. A lacquer gun is

   a. used for touch-ups.
   b. a junk gun.
   c. used for priming.
   d. shiny and clean.

4. An enamel gun is

   a. used for complete paint jobs.
   b. filled with lacquer
   c. clean and shiny.
   d. dirty.

5. If you have a paint gun, you should

   a. keep it shiny.
   b. keep it clean.
   c. keep it filled with dirt.
   d. keep moisture out of the inside.

6. Binks, DeVillbus, and Sharpe are

   a. body shops.
   b. paint gun models.
   c. old-timers.
   d. manufacturers of good paint guns.

7. The newer model paint gun is the

   a. Binks.
   b. Bondo.
   c. DeVillbus.
   d. Sharpe.

8. Why should you buy a "big name" paint gun?

   a. "Big name" manufacturers have a good supply of paint gun parts.
   b. You can send your gun to those manufacturers for servicing.
   c. They are good quality guns.
   d. They are cheaper guns.

(Part 2)

Short Answer (TrC)

1. Which part of the spray gun holds the paint?

2. Which part is where you hold it?

3. Which part do you pull to make the paint come out?

4. Which part do you have to remove sometimes to overhaul your gun?

5. Which part controls how much paint is coming out of your gun?

6. Which part controls how much air is going into your gun?

7. Which part tells the pressure of the air going into the gun?

8. Which part is helpful for painting upside down or sideways?

9. Which part controls how wide your spray is as it comes out of your gun?

Multiple Choice (TrA)

1. If you want more paint coming out of the gun, you

   a. open the fluid and adjustment.
   b. turn up the fluid adjustment.
   c. close the fan.
   d. turn down the fan.

2. If you want to spray a large surface, you

   a. open the fluid valve.
   b. close the fluid valve.
   c. turn down the air pressure.
   d. turn up the air pressure.

3. If you want to spray a smaller area, you

   a. open the fluid valve.
   b. close the fluid valve.
   c. turn down the air pressure.
   d. turn up the air pressure.

4. If your air horns are vertical, your fan will be

   a. horizontal.
   b. vertical.
   c. up and down.
   d. sideways.

5. If you want to spray with a side-to-side arm movement, you put the air horns

   a. horizontal.
   b. vertical.
   c. up and down.
   d. sideways.

Multiple Choice (continued)

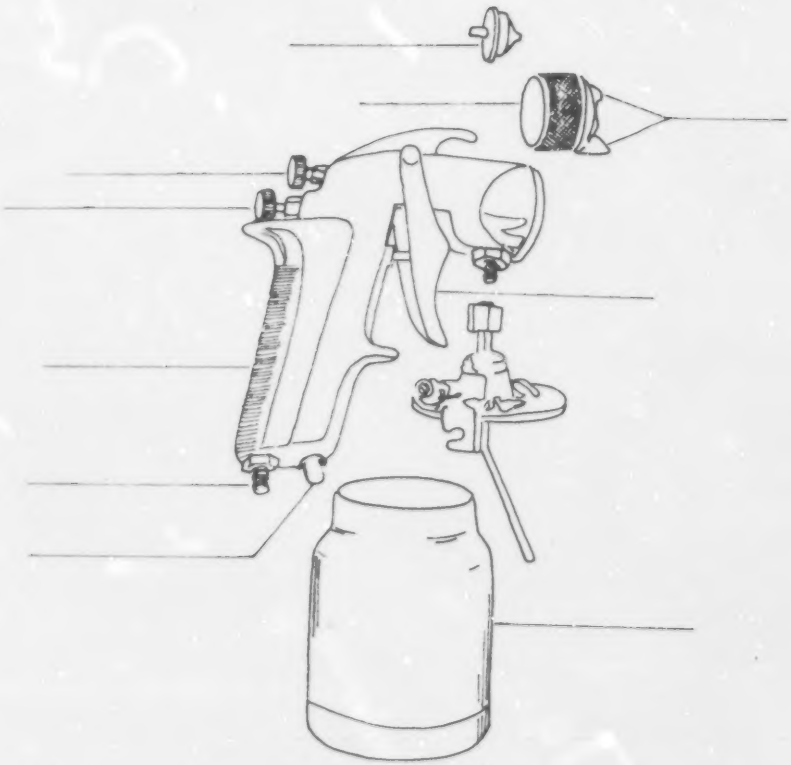
6. Another word for fan is

a. valve.
b. spray pattern.
c. fluid.
d. air horns.

7. You should paint so that the fan strokes

a. overlap halfway.
b. cover your hand.
c. go opposite.
d. look simple.

Label the Pictures (TrH)



UNIT X

VIDEO LECTURE (SERIES A)

INTRODUCTION TO PAINTING

PREVIEW

(Part I)

Herbert Nishii describes the two types of paint jobs done in autobody shops. He then lists on the blackboard, in order of preference from best choice to worst, the types of paint used for the two kinds of paint jobs. He then explains the reasons for the preferences by explaining the characteristics of the different types of paint and the production needs of the autobody repair shops.

Questions To Think About:

1. What are the two types of paint jobs?
2. What are the three types of paints?
3. Which paint is preferred for which type of job?
4. Which paint dries fastest?
5. Which paint has a very high gloss and needs no buffing or compounding?

(Part 2)

Herbert Nishii explains the initial steps for preparing a car for a complete paint job. This part of the lecture explains the preparations done before the car is taken into the paint booth.

Questions To Think About:

1. What are two kinds of cleaning agents used to take the wax, dirt, and polish off a car before it is painted?
2. What grit sandpaper should you use when sanding the car?
3. What materials can you use for masking the car?
4. Why is a final blow down so important?

Preview continued

(Part 3)

Herbert Nishii explains the preparation of the spray booth, the painting equipment, and the final preparations of the car which are done in the spray booth. He also explains the proper techniques for painting the whole car.

Questions To Think About:

1. How do you prepare the paint booth?
2. After you put the car into the spray booth, what can you use to remove any remaining dust on the car?
3. What must you do to prepare the painting equipment?
4. What is a good technique for painting the car?
5. Does it matter which part of the car you begin painting first?
6. What is the purpose of the spray booth fan?

EXERCISES

(Part 1)

Fill in the Blanks (TrD)

1. The two types of paint jobs are _____ and _____.

2. In touch-up painting, the order of paint preferences is first _____, second _____, and third _____.

3. In complete paint jobs, the order of paint preferences is first _____, second _____, and third _____.

Multiple Choice (TrA)

1. In touch-up painting, the preference is acrylic lacquer because

   a. it is prettier.
   b. it is cheaper.
   c. it dries faster.
   d. the boss likes it.

2. In complete paint jobs, the preference is acrylic enamel because

   a. it is less work.
   b. it has a high gloss.
   c. you don't have to buff it.
   d. you don't have to compound it.

3. In paint shops the majority of jobs will usually be

   a. touch-ups.
   b. free.
   c. completes.
   d. on custom cars.

4. Lacquer is more work than enamel painting because you have to

   a. spray so many coats.
   b. sand the lacquer coats.
   c. buff the lacquer.
   d. weld the lacquer

5. What type of cars might get a complete lacquer job?

   a. a custom car
   b. a car-show car.
   c. a policeman's car
   d. your own car.

(Part 2)

Number in Order (TrE)

Before you put the car in the paint booth for a complete paint job, you have to

_____ prepare the body work for painting.

_____ do the body work.

_____ prepare the whole car for painting.

Multiple Choice (TrA)

1. You use degreasers to remove the

   a. silicone.
   b. wax.
   c. dirt.
   d. polish.
   e. chrome.
   f. door edge.

2. What are the names of two degreasers or solvents?

   a. Klix
   b. Acme
   c. Prep Sol
   d. DuPont

3. When you sand the complete car, you can use

   a. 36-grit sandpaper.
   b. 400-grit sandpaper.
   c. 500-grit sandpaper.
   d. 600-grit sandpaper.

4. The direction you should sand is

   a. up and down.
   b. in circles.
   c. forward and back.
   d. criss-cross.

5. The reason why you should sand in one direction is that

   a. there will be no sand scratches.
   b. sand scratches will look like grains in wood.
   c. sand scratches will not be noticeable.
   d. sand scratches are beautiful.

6. If you water-sand the car, you need to

   a. blow it down.
   b. dry it off.
   c. dry-sand it.
   d. turn it around.

X

Multiple Choice (TrA)

7. For masking you can use

   a. production paper.
   b. newspaper.
   c. tape.
   d. plastic filler.

8. The tape and paper is used to cover

   a. windows.
   b. bumpers.
   c. hoods.
   d. large chrome areas.

9. You need to inspect the whole car by checking out the

   a. taping.
   b. seams.
   c. body work.
   d. paint booth.

Short Answer (TrC)

1. Why do you do a final blow down?

2. What will the paint job look like if you don't blow the car down before painting it?

3. What interior parts of the car do you need to remember to blow down?

(Part 3)

Multiple Choice (TrA)

1. You wet down the outside and inside of the spray booth to

   a. minimize the dust.
   b. prepare the booth.
   c. make it dusty.
   d. ding up the car

2. When you bring the car into the paint booth,

   a. try to damage it.
   b. try not to damage it.
   c. have somebody guide you in.
   d. drive carefully.

3. You tack the car

   a. with a varnish-soaked rag.
   b. to pick up any leftover dust.
   c. by using a transformer on it.
   d. inside the various seams, tires, and in the engine.

Multiple Choice (continued)

4. You bleed your transformer to

   a. clean the line connected to your spray gun.
   b. make it die.
   c. clean the transformer.
   d. let the water and oil drip out.

5. The purpose of the transformer is to

   a. mix your paint.
   b. compress the air.
   c. clean the line from the compressor to the gun.
   d. catch rubbish coming from the compressor.

Fill in the Blanks (TrD)

1. If you use lacquer paint, you thin it out with _____.

2. If you use enamel paint, you thin it out with _____.

3. When you mix the paint, how much solvent you use depends upon _____, _____, and _____.

4. You can find out how much air pressure to use by _____.

5. You spray the part of the car first which is _____ from the fan.

6. Your painting technique will depend upon how you learn, how _____ you want to work, and how _____ you want to work.

UNIT XI

VIDEO LECTURE (SERIES A)

PREPARATION FOR PAINTING

PREVIEW

(Part 1)

Herbert Nishii introduces the topic "preparing for paint," and explains why preparation for painting is important and time-consuming. He says that he will explain two ways of doing the preparations. He then shows the supplies and equipment necessary for preparations.

Questions To Think About:

1. Why are the preparations for painting so important?
2. What are the two ways to prepare for painting?
3. What is the main difference between the two ways?
4. What tools will be needed?
5. What supplies will be needed?

(Part 2)

Herbert Nishii first shows how to feather-edge the outside edge. He then explains two ways of priming and demonstrates the way to apply primer for a quality job. He also explains and demonstrates the application of glazing putty.

Questions To Think About:

1. When you are feather-edging, what can you do to prevent the metal from becoming too hot and warping?
2. When priming for production, how many coats of primer do you apply?
3. When priming for a quality job, how many coats of primer do you apply?

Preview continued

Questions To Think About: (continued)

4. Between coats of primer, how long do you have to wait?

5. After your last application of primer, how long should you wait before applying the putty?

6. How many coats of glazing putty should you apply?

(Part 3)

Herbert Nishii explains two methods of sanding the dried glazing putty and demonstrates part of the sanding procedure. He then applies primer on the puttied surface, applying many coats to fill up the scratches for a quality job. He then spot putties the remaining scratches, sands the spot puttied areas, and again applies primer to the area.

Questions To Think About:

1. When sanding glazing putty, what kinds of sandpaper do you use 1) for production jobs (autobody shop jobs) 2) for a quality job?

2. When sanding glazing putty, what sanding technique does Herbert Nishii use?

3. How do you check the glazing putty for smoothness?

4. How many coats of primer does Herbert Nishii use to fill up the scratches for a quality job?

5. If you put the spot putty on too soon, while the primer is still wet, what will happen?

6. When sanding the spot putty (before putting on the final two wet coats of primer) what kinds of sandpaper can you use?

EXERCISES

(Part 1)

Fill in the Blanks (TrD)

1. Today Herbert Nishii will demonstrate a procedure called _____.

2. The preparation for painting is important because it is your _____ for a good paint job.

3. Preparation for paint involves some _____, a lot of the _____, and takes a little bit of time.

4. Herbert Nishii will tell you how to do it two ways, a _____ way and _____ way.

5. Doing the preparation for paint a good way takes a lot of time, and doing it a _____ way takes a shorter amount of time.

Short Answer (TrC)

1. What power tool is used for feather-edging?

2. What tools will you use to apply glazing putty?

3. What brand of glazing putty will Herbert Nishii be using?

4. What hand tool will you need for hand-sanding the glazing putty?

5. What kind of spray gun will you be using?

(Part 2)

Fill in the Blanks (TrD)

1. In order to prepare your surface, you need to _____ the outside edge.

2. You use the _____ or _____ to prepare your surface.

3. Herbert Nishii is using a _____-grit sandpaper on the feather-edger.

Fill in the Blanks (continued)

4. You should try to _____ the surface to make sure that the metal isn't getting hot.

5. You should also hold the tool as _____ as possible to get a more even surface.

Multiple Choice (TrA)

1. Your next step in preparing the surface is to

   a. warp your metal.
   b. plastic fill.
   c. prime.
   d. feel the surface.

2. In your production way of priming, you

   a. lay the primer on thick and wet.
   b. only paint one transparent coat of primer.
   c. paint two coats of wet primer.
   d. paint two transparent coats and a third wet coat.

3. In your good way of priming, you

   a. lay the primer on thick and wet.
   b. only paint one transparent coat of primer.
   c. paint two coats of wet primer.
   d. paint two transparent coats and a third wet coat.

4. When you prepare the primer gun, you adjust

   a. your fan.
   b. your fluid.
   c. your air pressure.
   d. your respirator.

5. When priming, you should watch

   a. the glazing putty.
   b. the overlap of the strokes.
   c. how wet or dry the primer is going on.
   d. the feather-edger.

6. After applying the third coat, you need to wait for it to

   a. get wet.
   b. flash.
   c. set.
   d. become transparent.

7. If you paint coats of primer without letting them flash,

   a. the solvents won't have a chance to evaporate.
   b. you would have a very soft bottom.
   c. you would have a hard coat.
   d. you would have a hard top.

Multiple Choice (continued)

8. If you put the putty on when the primer is wet,

   a. the primer will probably come off.
   b. it will look nice.
   c. it will become dry.
   d. the primer will run.

9. You can find out when the primer is dry by

   a. putting the putty on.
   b. looking at it.
   c. feeling with your hand over the area.
   d. listening to it.

10. If the primer is still wet, you can feel

   a. that it is not that cold.
   b. that it is very warm.
   c. a cool breeze coming through the primer.
   d. the putty.

11. When the air over the primer is not that cold

   a. you need to wait.
   b. you can apply your putty.
   c. you need to apply more primer.
   d. the solvents are still evaporating.

Short Answer (TrC)

1. What is the purpose of glazing putty?

2. Do you use putty to fill up big dents?

3. What will happen to the putty if you use too much?

Fill in the Blanks (TrD)

1. Your first application of putty should be _____.

2. After the first coat of putty, let it _____.

3. After the second coat of putty, you let it _____ for a while.

(Part 3)

Fill in the Blanks (TrD)

1. When you sand your glazing putty, you start off with a _____-grit sandpaper.

2. The sandpaper could be dry (fre-cut), or you could sand it with _____ for wet sanding.

3. If you are doing a production job you start out with a _____ sandpaper, and finish it off with a very _____ sandpaper.

4. If you are doing a quality job at home, you might use a _____ sandpaper all the way through.

Multiple Choice (TrA)

1. When you sand, you

   a. start at the outside edge.
   b. start in the center.
   c. cross-sand on the outside edge.
   d. cross-sand in the center.
   e. use a circular movement with the sanding block on the edge.
   f. use a circular movement in the center.

2. Herbert Nishii will not show the fine sanding because

   a. the procedure is the same.
   b. he wants to show a way to do a lot better job.
   c. you should not do it.
   d. you have a smooth surface now.

Fill in the Blanks (TrD)

1. While you are sanding you should _____ the area.

2. You should be careful not to create _____ or _____ spots.

3. You should check to make sure that the putty has filled up the _____.

4. Usually, in production, you would go over it again with a _____ sandpaper and then shoot the primer.

Fill in the Blanks (continued)

5. Herbert Nishii will do it a different way, and fill up the scratches with _____.

6. He puts _____ coats of primer on to fill up the scratches.

7. You have to let the primer _____.

8. While waiting for the primer to dry, you should _____ on another job, or do something else on the car.

9. When you sand the spot putty, you can use an _____-grit sandpaper and then a _____-grit sandpaper.

10. You clear the area that you will prime by _____ it with the primer gun.

11. You use _____ coats of primer to cover the spot puttied surface.

UNIT XII

VIDEO LECTURE (SERIES A)

FINAL PREPARATION AND SPOT PAINTING

PREVIEW

(Part 1)

In this section of the lecture, Herbert Nishii describes the final procedures for preparation for spot painting: compounding the outer edge, sanding the primered surface, blowing the surface off with the air gun.

Questions To Think About:

1. What is the purpose of compounding the outside edge?
2. What machine do you use to compound the edge?
3. What kind of sanding technique should you use?
4. Why do you need to blow the surface off?

(Part 2)

Herbert Nishii shows the equipment and supplies needed for painting. He shows how to check the spray gun to see that it is in working order. He then explains the different proportions for mixing the lacquer paint with lacquer thinner for the first and later coats of paint. He demonstrates the mixing procedure and the painting technique for the cover (first) coats of paint. He then shows how to paint later coats of reduced paint. And last, he explains two different ways of getting a glossy surface to finish the job.

Questions To Think About:

1. What supplies will you need for painting?
2. What safety precaution should you take when painting?
3. In what proportions should you mix your paint and thinner for the cover coats of paint?
4. What proportions should you have for later coats of paint?

Preview continued

Questions To Think About: (continued)

5. How much air pressure will you need?

6. Should you paint transparent coats?

7. What might happen if you do not pause or wait between applying the different coats of paint?

8. What are two possible methods of getting a gloss on the paint surface when it dries?

EXERCISES

(Part 1)

Short Answer (TrC)

1. When you compound the area surrounding the primer, what two things do you need to use?
2. How far outside the primer should you compound?
3. What does the compound do to the paint surface?
4. Why do you need to compound the surrounding area?
5. What tool does the buffer resemble?
6. How is the larger buffer different from a disc grinder?
7. What should you try not to do when using the buffer?
8. What does the compound do to the edge of the primer?
9. What do you use to smoothen the inside area of the primer?
10. Which direction should you make the sand-scratches go?
11. Why should you be careful not to sand off too much primer?
12. After you finish sanding, how do you clean off the surface?

(Part 2)

Short Answer (TrC)

1. What are five things you need for touch-up painting?
2. What things should you check on your spray gun?
3. How does lacquer paint dry?
4. When you mix (reduce) the paint with thinner for the first coats of paint, what parts or amounts should you use?
5. What is the usual reduction for primer?
6. When you reduce the paint mixture for the thinner coats of paint, which you apply later, what parts or amounts should you use?

Fill in the Blanks (TrD)

1. When you first start to paint, you use a _____ type of paint.

2. You use a _____ air pressure so that the paint doesn't go into the air as overspray.

3. You apply the paint wet, not _____.

4. You use a _____ percent overlap.

5. You let it _____ for a while between coats, since you don't want it to _____.

6. Too much paint will cause it to collect in one area, and because the panel is sloping downwards the paint will _____.

7. At the end of each stroke, try to _____ your wrist.

8. This first application of paint is called your _____.

True-False (TrB)

_____ 1. For the later coats of paint, you need to reduce the paint two parts.

_____ 2. You should check to see if the colors match when mixing paint.

_____ 3. If the color isn't matching right, you might have to add a different shade of color to your paint.

_____ 4. When you start blending in, you should start from the inside and work your way out.

_____ 5. You should again crack your wrist and apply the paint wet when blending in the paint.

_____ 6. At this time, you should be applying transparent coats of paint.

_____ 7. After painting, some shops will compound the area and buff it to get a shine.

_____ 8. After painting, some shops will sand it with a 600-grit sandpaper and then shoot a thinner coat of paint.

_____ 9. Herbert Nishii has left out a lot of steps on how to touch-up paint.

True-False (continued)

_____ 10. Herbert Nishii has given you a complete rundown of the painting procedures and steps.

_____ 11. You should listen to what your boss tells you about painting.

_____ 12. You should give Herbert Nishii's helpful hints to your boss.